INTERIOR DESIGN DEVICE FOR A VEHICLE, ESPECIALLY A MOTOR VEHICLE

BACKGROUND AND SUMMARY OF THE INVENTION

[0001] This application is a continuation of International Patent Application No. PCT/EP02/03705 filed on April 4, 2002, designating the United States of American, the entire disclosure of which is incorporated herein by reference. Priority is claimed based on Federal Republic of Germany Patent Application No. DE 101 19 604.0 filed April 4, 2001.

[0002] The invention concerns an interior design device for a vehicle, especially a motor vehicle, which can be installed in the interior of the vehicle, with a lining section that can be fastened to a vehicle wall, a fastening section for the lining section and with a hook element protruding into the interior, especially a coat hook, wherein the fastening section and the hook element are connected with each other via a bridge, the fastening section can be attached to the vehicle wall and the hook element rests against an interior surface of the lining section facing the interior.

[0003] German Patent Document No. DE 43 33 479 A1 describes a generic interior design device for a vehicle. This interior design device contains a lining section that is attached to a vehicle wall and a fastening section for the lining section, wherein this fastening section is designed like a barb and reaches behind the vehicle wall. Furthermore, this interior design device contains a hook

element, especially a clothes hook, which protrudes into the interior of the vehicle. The fastening section and the hook element are connected to each other via a bridge. Additionally, the fastening section serves the purpose of fastening both the lining section and the hook element. The disadvantage is that the lining section rests directly against the vehicle wall.

[0004] It is therefore a task of the invention to create an interior design device of the kind described above for a vehicle, whose lining section can be fastened to the vehicle wall at a distance in a simple manner.

[0005] This task is accomplished with an interior design device for a vehicle, especially a motor vehicle, which can be installed in the interior of the vehicle, with a lining section that can be fastened to a vehicle wall, a fastening section for the lining section and with a hook element protruding into the interior, especially a coat hook, wherein the fastening section and the hook element are connected with each other via a bridge, the fastening section can be attached to the vehicle wall and the hook element rests against an interior surface of the lining section facing the interior, wherein the fastening section is configured to be installed between the lining section and the vehicle wall, wherein the bridge extends beyond a peripheral edge of the lining section, and wherein the fastening section and the hook element are placed on top of the peripheral edge.

[0006] Major advantages accomplished with the invention are that a lining section of an interior design device for a motor vehicle can be fastened to the vehicle wall at a distance to it with just a few assembly steps.

[0007] Additionally, according to certain preferred embodiments of the invention, a hook element of the interior design device is attached to the vehicle wall by the fastening section. A vehicle design device can be installed between the lining section and the vehicle wall. When the lining section is attached to the B or the C column of the vehicle body, for example, a safety belt device or another safety element, especially a fastening element, can be installed as the vehicle design device behind the lining section.

[0008] The invention is explained in more detail in the following based on examples while referencing the drawing.

[0009] Other objects, advantages and novel features of the present invention will become apparent from the following detailed description of the invention when considered in conjunction with the accompanying drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

[0010] Figure 1 is a sectional schematic view of the interior of a vehicle with an interior design device depicted in a sectional view, constructed according to a preferred embodiment of the present invention;

[0011] Figure 2 is a perspective view of a fastening element of the interior design device pursuant to Figure 1;

[0012] Figure 3 is another perspective view of a fastening element of the interior design device pursuant to Figure 1;

[0013] Figure 4 is a sectional view of the interior design device, taken along the line IV-IV in Figure 1; and

[0014] Figure 5 is a perspective view of a screen of the interior design device pursuant to Figure 1.

DETAILED DESCRIPTION OF THE DRAWINGS

[0015] Figure 1 shows a section of vehicle 1, especially a motor vehicle, for example a passenger car, wherein from the vehicle 1 only parts of the vehicle construction 2 are shown in a cross-sectional view. Especially visible from construction 2 is a longitudinal roof cross-beam 3 and a B-column 4. The longitudinal roof cross-beam 3 can be lined with a cover 6 on a surface visible from the interior 5 of the vehicle.

[0016] Another longitudinal roof cross-beam (not shown) is located opposite the longitudinal roof cross-beam 3. A roof opening can be incorporated between the two longitudinal roof cross-beams, which can be released or closed by a removable or displaceable cover. The longitudinal roof cross-beams can be a

section of the body of the vehicle 1 or a roof module that can be inserted in the body that supports the cover.

[0017] An interior design device 7 is installed or can be installed in the interior 5 of the vehicle 1. It comprises at least one, preferably dimensionally stable, lining section 8, a fastening section 9 for the lining section and a hook element 10 protruding into the interior 5, which can contain a clothing hook 11 or can form this clothing hook 11. The lining section 8 is attached with the fastening section 9 to a vehicle wall 12, which is assumed to be a B-column 4 purely for illustration purposes. It is also possible, however, to fasten the lining section 8 to other vehicle interior walls, such as the A- or C-column, the roof or the like.

[0018] The fastening section 9 and the hook element 10 are connected to each other via a bridge 13. The bridge 13, fastening section 9, and hook element 10 can be designed as a single piece, preferably a molded component. A base plate 14 of the hook element 10 rests against an interior surface 15 of the lining section 8 facing the interior 5. The fastening section 9 is installed between the lining section 8 and the vehicle wall 12 so that the lining section 8 is installed at a distance to the vehicle wall 12. The fastening section 9 with the hook element 10 is placed onto an edge 16 of the lining section 8, wherein this edge 16 in the example is the upper edge, which is installed adjacent to the longitudinal roof cross-beam 3. The bridge 13 reaches across this edge 16 by placing the fastening section 9 and the hook element 10 on top in the direction of the arrow P. Since

the hook element 10 rests against the interior surface 15 of the lining section 8, the lining section 8 is fastened simultaneously when attaching the fastening section 9 to the vehicle wall 12. Due to the width B of the fastening section 9, the lining section 8 is installed at a distance to the vehicle wall 12, thus creating space for a vehicle design device. In the example shown, it consists of a safety belt device, whose belt 17 is guided behind the lining section 8.

[0019] Based on Figure 2 and 3, the fastening section 9 is described in more detail. It can be formed by a cuboid block 18 with the width B, which is preferably hollow, i.e., contains at least one inner recess 19. A wall area 20, which runs roughly parallel to the vehicle wall 12, protrudes beyond the outer contour of the block 18, wherein said wall area contains an opening 21, through which a first connecting means 22 (Figure 1) extends, which is attached to the vehicle wall 12, preferably in a receptacle device 23, which can be fastened to or incorporated on the vehicle wall 12. The first connecting means 22 is preferably a screw, which is screwed into the receptacle device 23. In order to be able to insert the first connecting means 22 from the interior 5, a recess 24 is provided in front of the opening 21 in the block 18 or bridge 13, which is flush with the opening 21.

[0020] From the edge area of the recess 24 a fastening device 25 for a screen 26 extends, which covers at least the recess 24 and/or the connecting means 22. The fastening device 25 can extend from the bridge 13, the fastening section 9 or the

hook element 10. The screen 26 can reach all the way to the cover 6 of the longitudinal roof cross-beam 3. The fastening device 25 preferably comprises two extensions 27, which originate at the edge area of the recess 24, point in the direction of the vehicle interior 5 and extend away from the edge 16. The two extensions 27 are installed at a distance to each other and thus form the through-space 28, in which the recess 24 is also located. Above the through-space an actuating tool can thus be guided to the first connecting means 22. A snap-fit protrusion 29 is designed in each extension 27, behind which a snap-fit extension 30 engages that is provided on the screen 26, as is especially depicted in Figure 4, which also shows that the cross-section of the lining section 8 can have a C-shape. Figure 1 and Figure 5 show that the screen 26 covers the base plate 14 of the hook element 10. The coat hook 11 protrudes into the interior 5 through a perforation 31 on the screen 26.

[0021] A receiving recess 32 can be incorporated into the bridge 13, in which the edge area 33, which is located behind the edge 16 of the lining section 8, is seated. The fastening section 9 and the hook element 10 are installed at a distance to each other so that the edge area 33 is seated in between, for which a snap-fit or clamping connection can be provided, in order to enable sub-assembly by placing the fastening section 9 and the hook element 10 onto the lining section 8. For sub-assembly and/or for safe fastening of the lining section 8, a second connecting means 34 can be inserted between the lining section 8 and the hook

element 10, wherein said means preferably penetrates the lining section 8 and is attached to the base plate 14 of the hook element 10. The second connecting means 34 can connect the lining section 8 with the base plate 14 from an exterior surface 35 of the lining section 8, which in the case of an interior design device 7 that is installed in the vehicle, faces away from the interior 5. The second connecting means 34 is inserted before the lining section 8 is fastened to the vehicle wall 12. Since the second connecting means 34 is screwed in from the exterior 35, it would be feasible to design the screen 26 such that it extends only to the upper edge 36 of the base plate 14 and thus covers only the intermediate space 28, the recess 24 and the first connecting means 22.

[0022] The foregoing description and examples have been set forth merely to illustrate the invention and are not intended to be limiting. Since modifications of the described embodiments incorporating the spirit and substance of the invention may occur to persons skilled in the art, the invention should be construed broadly to include all variations within the scope of the appended claims and equivalents thereof